[Name of Document] Argument

[Reference Number] 2005508381

[Date of Submission] May   , 2008

[Addressed to] Examiner of the Patent Office

[Indication of the Case]

    [Application Number] Patent Application No. 2005-508381

[Applicant]

    [Identification Number] 398012616

    [Name] Nokia Corporation

[Representative]

    [Identification Number] 100099759

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[Contents of Argument]

1. Introduction

    We received the notice of reasons for rejection of February 26, 2008 (mailing date), which describes that the inventions described in claims 1 to 22 of this application are deemed ones which could easily have been made, prior to the filing of the present application, by a person with ordinary skill in the art to which the inventions pertain, on the basis of the inventions described in the following References 1 to 3 distributed prior to the filing of the present application, and therefore are unpatentable under the provisions of Article 29, paragraph 2, of the Patent Law (Reason 1); the description of the claims of this application is defective, and does not satisfy the requirements prescribed in Article 36, paragraph 6, item 2

of the Patent Law (Reason 2); and the description of the claims of this application is defective, and does not satisfy the requirements prescribed in Article 36, paragraph 6, item 4 of the Patent Law (Reason 3). We will argue below in response to the above notice.

NOTE

Reference 1: Japanese Unexamined Patent Publication (Kokai) No. 2000-105645

Reference 2: Japanese Unexamined Patent Publication (Kokai) No. H08-328725

Reference 3: Japanese Unexamined Patent Publication (Kokai) No. H08-54976

2. With regard to amendment

In view of the above notice of reasons for rejection, the applicant amended the description of the claims in an amendment submitted together with this argument, to further clarify the invention of this application and correct the inappropriate descriptions. The relationship between the claims before amendment (hereinafter referred to as "former claims") and the claims after amendment (hereinafter referred to as "new claims") will be described below.

In the amendment, former claims 1, 7 and 8 were combined, and a feature to define the term "half edge distance area" was added thereto, to make new claim 1 (the portions different from former claim 1 are underlined). This added feature was made based on paragraph 0077 of the specification originally attached to the request of this application.

Former claims 2 to 6 and 9 to 22 were replaced with

new claims 2 to 20. The amended feature in new claim 5 is a paraphrase of the corresponding feature in former claim 5, and no new matter is added to new claim 5. The amended feature in new claim 17 (corresponding to former claim 19) corresponds to the amended feature in new claim 1, and no new matter is added to new claim 17.

3. With regard to Reason 1 (lack of inventive step)
(1) Regarding new claim 1

In view of the problems of a conventional technology, the objective (the technical objective) of the invention of this application is to modify a conventional touch pad in which only a single point input is allowed, into a touch pad in which a multiple points input is allowed.

The gist of the invention according to new claim 1 is as follows:

"Method for recognizing a dual point user input on a touch based user input device, comprising

receiving a first user input to said input device relating to a first position;

forming a first position signal relating to said first user input;

receiving a second user input to said input device relating to a second position;

forming a second position signal relating to said first input and said second input;

determining on the basis of said first position signal and said second position signal, if said second user input has its source in a simultaneous dual point user input;

generating a third position based on said first

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position signal and said second position signal; and

using said first and third positions, as the coordinates of said dual point user input;

wherein said determination, if said second position has its source in a simultaneous dual point user input, is based on at least one boundary area defined by possible input options and said first position, wherein dual point user inputs are excluded if said second position is not detected to be within one of said boundary areas; and

wherein said boundary area includes at least a half edge distance area defined as an area which is bounded by lines representing all points having equal distances to edges of an input area and to said first position."

On the other hand, References 1 to 3 disclose a touch panel-type coordinates input device, wherein a first point user touch input is received and detected; the position of the first point is judged based on the detected signal, and is stored; if a second point input is performed together with the first point input, the coordinates of the intermediate point between the first point position and the second point position is detected based on a signal obtained by simultaneously pushing the first point and the second point; whether or not a dual point input is performed is judged based on an electric potential difference, etc. between the signal detected from the first point touch input and the signal detected by simultaneously pushing the first point and the second point; and if it is judged that the dual point input is performed, the position of the second point is calculated based on the first point position and the coordinates of the intermediate point.

Reference 1 also discloses that whether or not the

positions of the first point and the second point exist within a predetermined area in which a dual point push is allowable is judged; and only if it is judged that the positions exist within the allowable area, a data processing corresponding to the dual point push is performed.

However, References 1 to 3 disclose that the "boundary area" to exclude the "dual point user input" includes at least a half edge distance area defined as an area which is bounded by lines representing all points having equal distances to edges of an input area and to said first position. In the invention according to new claim 1, the above feature improves the recognition accuracy for the dual point user input.

As described above, in view of the fact that the invention according to new claim 1 has a specific feature, and a specific effect can be obtained from the specific feature, we believe that the inventive step of the invention according to new claim 1 cannot be denied.

(2) Regarding new claim 17 (corresponding to former claim 19)

The invention according to new claim 17 is different from the invention according to new claim 1 in only their categories. Accordingly, we believe that the invention according to new claim 17 has an inventive step, based on a reason similar to the above reason for the invention according to new claim 1.

(3) Regarding new claims 2 to 16 and 18 to 20

New claims 2 to 16 and 18 to 20 directly or indirectly

depend on new claim 1 or 17 which is patentable as described above, and contain all of the features to specify the invention of new claim 1 or 17. Accordingly, new claims 2 to 16 and 18 to 20 have an inventive step.

(4)   Therefore, we believe that the reasons for rejection are overcome by the above amendment.

4. With regard to Reason 2 (violation of requirements for clarity)

(1)   Regarding item (1), "NOTE" column in "Reason 2" of the notice of reasons for rejection

The applicant of this application amended the description "calculating a motion of said position that is not said point of reference, by reflecting said point of reference on said second position" in former claim 5 to "calculating a motion of said position that is not said point of reference, by obtaining a symmetrical point of said point of reference with respect to said second position" in new claim 5. Accordingly, we believe that the content of this step is clarified.

(2)   Regarding item (2), "NOTE" column in "Reason 2" of the notice of reasons for rejection

In new claim 1 corresponding to former claim 5, the definition of "a half edge distance area", i.e., "a half edge distance area defined as an area which is bounded by lines representing all points having equal distances to edges of an input area and to said first position" is added.

The term "half edge distance area" is described in

paragraph 0077 of the specification (especially, the description "The half edge distance line 94 represent all points having equal distances to the edges of the touch pad and the first point P_1. A combination of all half edge distance lines represent the boundary 96 of the boundary area 98") and Fig. 9.

In fact, the square-shaped area ABCDEFGH shown in the attached reference drawing designates "a half edge distance area". Point A is spaced from edge E1 and point P_1 at equal distances. Point B is spaced from edge E2 and point P_1 at equal distances. The same is true for points C to H.

The extension of the line segment ABC and the extension of the line segment EFG to the edge define a 1/2 area of the input area in the X-direction. Likewise, the extensions of the line segments CDE and GHA to the edge define a 1/2 area of the input area in the Y-direction. Accordingly, the square-shaped area ABCDEFGH corresponds to a 1/4 area of the input area, and the residual 3/4 area of the input area can be excluded.

The line 94 in matrix 3 in Fig. 9 (described in paragraph 0080) corresponds to a line obtained by extending the line segment EFG to the edges.

In matrix 4 in Fig. 9 (described in paragraphs 0081 and 0082), when the point P_1 is depressed, if area 102 is allowed for the second point, area 104 defines a boundary area.

5. Regarding Reason 3 (violation of the ministry ordinance)

The applicant of this application amended the description "Method according to anyone of claims 1 to 5" in former claim 5 to "Method according to anyone of claims

1 to 4" in new claim 5. Accordingly, we believe that the reasons for rejection are overcome.

6. Conclusion

As described above, the above cited references or the combinations thereof do not disclose or suggest the invention of the amended claims of this application. Further, the objected-to descriptions were appropriately amended. Please reexamine this application and make a decision that the applicant should be granted.

[List of Submitted Document]
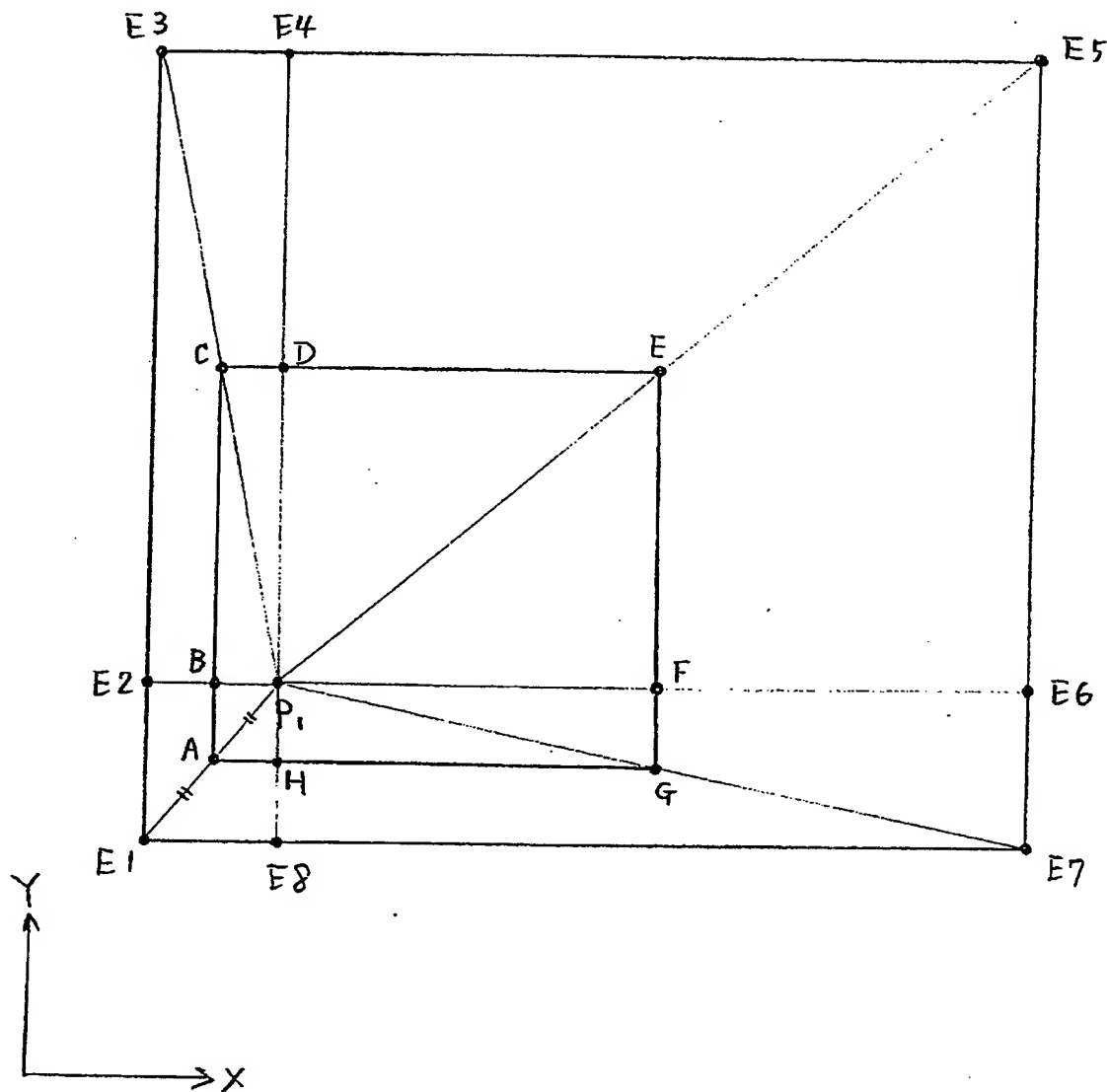[Name of Submitted Document] Reference Drawing 1
[Reference Drawing]

図 面 用 紙

ページ目
使用可能
範囲 →

ページ目 →
使用可能
範囲

参考図 (Reference Drawing)

意見書
添付臣

Y

X

注1) 図は1図1葉を原則とする。　注2) 1つの図が2枚にまたがってはならない。
注3) 本用紙は数式、化学式、表の記載にも利用する。

PATENT ABSTRACTS OF JAPAN

(11)Publication number :   08-328725

(43)Date of publication of application :   13.12.1996

(51)Int.Cl.   G06F   3/03

                                    G06F   3/03

(21)Application number : 07-156956   (71)Applicant :   CANON INC

(22)Date of filing :   31.05.1995   (72)Inventor :   TOKIOKA MASAKI
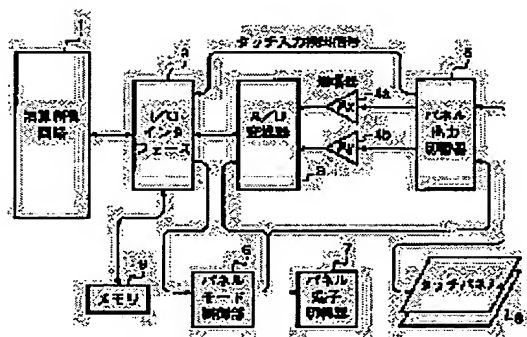   TANAKA ATSUSHI
                                             SATO HAJIME
                                             YANAGISAWA RYOZO
                                             KOBAYASHI KATSUYUKI
                                             YOSHIMURA YUICHIRO

(54) COORDINATE INPUT DEVICE

(57)Abstract:

PURPOSE: To simultaneously input plural points by obtaining the coordinate value of a second point from the output potential of a resistance film based on an arithmetic expression stored in a storage means when it is judged as a two-point simultaneous input state by a judgement means.

CONSTITUTION: When the film potential of an (x) axis and a (y) axis is detected, A/D conversion is performed by an A/D converter 3 first. When the A/D conversion is completed, output through an I/O interface 2 to an arithmetic control circuit 1 is performed. Further, after fetching data, sampled one-point input coordinate data immediately before are loaded from a one-point coordinate memory. The arithmetic control circuit 1 uses the data as one of the data at the time of two-point input and computes the coordinate value of the second point. In such a manner, since a touch panel 8 is used and the coordinate data (the two unknown numbers of an (x) coordinate and a (y) coordinate) of the second point at the time of a two-point input mode are obtained by an arithmetic operation, this coordinate input device capable of the two-point input is obtained by simple constitution.

PATENT ABSTRACTS OF JAPAN

(11)Publication number :   08-054976

(43)Date of publication of application : 27.02.1996

(51)Int.Cl.   G06F   3/03

                                 G06F   3/03

(21)Application number : 06-188392   (71)Applicant : MATSUSHITA ELECTRIC IND
                                                         CO LTD

(22)Date of filing :   10.08.1994   (72)Inventor :   KAWASAKI NAOTO
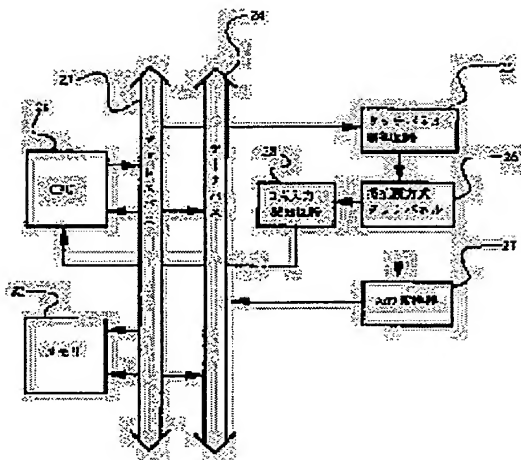
(54) RESISTANCE FILM SYSTEM TOUCH PANEL

(57)Abstract:

PURPOSE: To discriminate the coordiantes of two points when the two points are simultaneously inputted in a touch panel by providing a two-point input sensing circuit and a storage circuit (memory) on a resistance film system touch panel and calculating the coordinate of the second points.

CONSTITUTION: A touch panel control circuit 25 switches the measuring axis of an input location. Now, two points are simultaneously inputted in a resistance film system touch panel 26 forming a tablet. But, even if the two points are simultaneously inputted, a slight time difference is generated in the two points any way. By using the slight time difference, the coordinate of the point inputted at first is stored in a memory 22. When the second point is inputted, the two points input is sensed by a two-point input sensing circuit 28 and an interruption is generated in a CPU 21. The output of the touch panel 26 when the two points are simultaneously inputted is the about middle point of the two points. In this case, because the coordinate of the point inputted at first is stored in the memory 22, the coordinate of the input point of the second point can be calculated from the coordinates of the point inputted at first and the middle point of the two points.

PATENT ABSTRACTS OF JAPAN

(11)Publication number :   2000-105645

(43)Date of publication of application : 11.04.2000

(51)Int.Cl.   G06F   3/00

(21)Application number : 10-274101   (71)Applicant : DIGITAL ELECTRONICS CORP

(22)Date of filing :   29.09.1998   (72)Inventor :   DOJO MASAHIRO

(54) DETECTION COORDINATE PROCESSING METHOD OF ANALOG TOUCH PANEL

(57)Abstract:

PROBLEM TO BE SOLVED: To make detectable more than one point being pressed at the same time and to make performable the corresponding data process without altering the hardware constitution by judging as one indication input position when a detected coordinate change quantity per unit time is less than a set value and as more than one position when larger.
SOLUTION: The analog touch panel 10 is arranged in contact with the display screen 14 of a display 12 like a liquid crystal display plate; when an arbitary coordinate position on the touch panel 10 is pressed and indicated by using an indicating means such as a finger tip, a coordinate detecting circuit 18 analyzes the coordinates corresponding to the depression point and a data processing circuit 20 performs the data processing operation according to the analytic result. Here, changes of the indication coordinates on the touch panel 10 are detected, e.g. intermittently at intervals of a unit time. Further, it is judged that one input position is indicated when the detected coordinate change quantity per unit time is less than the set value and more than one input position is indicated when larger.